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**APPLYING LESSONS LEARNED FROM THE UNITED STATES SPECIAL
OPERATIONS COMMAND'S HUMAN PERFORMANCE PROGRAM TO THE
UNITED STATES AIR FORCE'S COMPREHENSIVE AIRMAN FITNESS**

by

Ryan M. Pearce, Maj, USAF

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Advisor: Dr. Edward Ouellette

Maxwell Air Force Base, Alabama

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ABSTRACT

With the sustained operational requirements for Overseas Contingency Operations and the fiscally constrained state of the United States Air Force (USAF), investment into a Comprehensive Airman Fitness Human Performance Program similar to the United States Special Operations Command Preservation of the Force and Family (POTFF) Task Force's Human Performance Programs would improve the manning, readiness, and operational effectiveness of USAF critically manned career fields. A case study framework for comparative analysis of POTFF's Human Performance Programs in Naval Special Warfare and the United States Army Special Operations Command was utilized to examine the best practices and procedural improvements for replication in a USAF Comprehensive Airman Fitness Human Performance Program to improve the resiliency, health, and well being of USAF's human capital to better meet operational requirements. Procedural improvements that should be adopted within a Comprehensive Airman Fitness Human Performance Program are devising an assessment capability and metrics to identify relevant career fields or units for advanced physical fitness program implementation, focusing physical training on the mission specific requirements of the individual similar to an athletic sports model, increasing access to higher level subject matter expertise from medical and non-medical support personnel and staff positions, and streamlining the bridge between preventative and rehabilitative mechanisms within the program.

INTRODUCTION

The United States Air Force (USAF) is constantly deemed the most technical service with an emphasis on the multi-million dollar fighter and bomber aircraft leading its fight against the enemy. Based on their importance, there are multi-million dollar systemic mechanisms in place to maintain these platforms and ensure the health and maintenance of the fleet. An often-overshadowed component of these weapons systems are the human capital, or personnel, enabling, supporting, maintaining, directing, and controlling them. When compared to the vast technical expertise and support of large Maintenance Groups associated with USAF flying Wings, there is a night and day comparison between how the USAF prioritizes the care and maintenance of its technical and hardware components versus the care and health of its human capital. Based on the fiscal constraints facing the US military and more importantly, the USAF there is an exponential value in improving how it maintains and retains its human capital.

During March 2011, and in response to the steadily increasing operational tempo and deployment requirements for USAF personnel since the start of the Global War on Terror, the USAF implemented the Comprehensive Airman Fitness (CAF) initiative as a mechanism to help maintain the resiliency, health, and welfare of its force.¹ As Air Force Instruction (AFI) 90-506 states, the strategy of the CAF, “focuses on strengthening fitness, resilience, and readiness in Airmen, families, communities, and organizations through education, resilience building activities, and wellness support programs.”² The fitness focus areas of CAF are “mental, physical, social, and spiritual,”³ and while there is momentum to implement this initiative, certain aspects of its execution will require procedural and resource improvements to truly improve and sustain the USAF’s human capital from an operational readiness standpoint.

One smaller section of the USAF found within the Air Force Special Operations Command (AFSOC) has implemented a more robust and advanced initiative focused on maintaining the resiliency, readiness, and well being of its human capital. The initiative is called the Preservation of the Force and Family (POTFF), and receives its funding through the United States Special Operations Command (USSOCOM). In addition to AFSOC, the POTFF initiative is implemented in organizations throughout USSOCOM to include select units of United States Army Special Operations Command (USASOC), Naval Special Operations Command (NAVSOC), Marines Special Operations Command, and Joint Special Operations Command (JSOC). POTFF has four focus sections similar to the CAF: Human Performance, Psychological Performance, Social Performance, and Spiritual Performance.⁴ Due to the high demand/low density as well as large fiscal training investments made into special operations personnel, this initiative has warranted higher funding and manpower support than other DoD service- specific initiatives such as the CAF.

All four POTFF sections are focused on the resiliency, readiness, and well-being of the service member and their family, but the first one, the Human Performance Section primarily addresses the physical fitness and well-being of the individual. Human Performance does this through the implementation of Tactical Athlete Programs, which provide tailored workout plans and nutrition education that prepare service members to meet the physical demands of their job while maintaining cognitive sharpness, and ensuring skeletal muscular injury prevention. Additionally, “Human Performance Programs also provide rehabilitative support, through physical therapy, that accelerates the SOF Operator’s return to duty in peak physical and mental condition following injury.”⁵ This latter portion has major manning benefits, because the

implications of losing one individual to a job-related injury have huge second and third order effects based on operational requirements to backfill the qualified individual.

The investments made into Special Operations personnel through selection and training costs makes their maintenance and well being a critical factor in sustaining manning and operational readiness. This requirement justified the increased funding and manpower support the POTFF's Human Performance programs received to maintain the health and operational readiness of its personnel. Human Performance had such a large effect within the community that the resources required to install preventative programs into their prescribed training cycles have been implemented at the highest levels.⁶ With the fiscally constrained state of the USAF, similar investments made into USAF personnel through the CAF may be limited, but there could still be applicable best practices and procedural improvements gleaned from the POTFF's Human Performance programs in USSOCOM that would improve the USAF implementation of CAF's associated physical fitness programs and support.

What are the best practices and procedural improvements derived from the POTFF's Human Performance Program implementation in USSOCOM that should or could be implemented or replicated into the USAF's CAF's associated physical fitness programs to improve the resiliency, health, and well-being of USAF's human capital?

The United States Air Force's physical-fitness programs associated with the Comprehensive Airman Fitness will benefit both fiscally and operationally by incorporating the best practices of the POTFF's Human Performance Programs, as used by USSOCOM, in critical career fields where manning and training requirements are a major concern. As a relatively nascent program within the USAF, it is imperative that the CAF seek to adapt its support mechanisms and programs to improve the physical fitness, and more importantly the overall

resiliency of its most important resource, its human capital. Procedural improvements that should be adopted within a CAF Human Performance Program are devising an assessment capability and metrics to identify relevant career fields or units for advanced physical fitness program implementation, focusing physical training programs on the mission specific requirements of the individual similar to the athletic sports model, increasing access to higher level subject matter expertise from medical and non-medical support personnel and staff positions, and streamlining the bridge between preventative and rehabilitative mechanisms within the program.

Regardless of whether or not a service member is a member of the AFSOC community, the benefits of Human Performance Programs can make fiscal sense to support manning requirements and help maintain the health and well being of USAF personnel. This is based on the impact of losing a 5- or 7-level equivalent leader due to muscular/skeletal injuries. Service members must still support operational and training requirements, and replacing injured personnel has second and third order effects that increase the operational tempo of the individuals required to back fill them or support the requirements to train replacements. There is a quantifiable fiscal price tag associated with injuries to trained service members regardless of their career field. The objective nature of the budgeting analysis for mitigating the cost associated with an injured service member may miss a very important subjective factor associated with retention. This is the improved quality of life for individuals living pain free lives due to relieved debilitating work related injuries. Debilitating injuries, when untreated are many times eventually only correctable with surgery. These injuries can be mitigated with effective rehabilitative and preventative exercises implemented soon after the initial mechanism of injury. Most of the Department of Defense's physical training guidance is dated in its methods

and focused primarily on the preparation for physical fitness tests.⁷ The revamped approach of Human Performance programs better prepares the force to execute its war-fighting requirements and prevents potential manning deficiencies due to injury. The current individual cost to fund a Human Performance program per operator is \$1,404.00, which is a feasible requirement when compared to the recruitment, training, and development costs of any one Airman, regardless of career field.⁸ Research has shown the number one cause for service members being unable to fulfill operational requirements is due to injuries.⁹ With the training and rehabilitation programs and support associated with Human Performance Programs, the reduction in lost man-days due to preventative injury maintenance and rehabilitation validates its implementation. USAF Senior leaders and decision makers would have to accept the initial hurdle of establishing the associated support personnel and infrastructure requirements for Human Performance Programs in USAF critically-manned career fields, but the long term fiscal and human capital benefits warrant their implementation.

COMPREHENSIVE AIRMAN FITNESS BACKGROUND AND PHYSICAL FITNESS SHORTFALLS

According to Air Force Policy Directive 90-5, “CAF includes fitness in mental, physical, social, and spiritual domains and is not a stand-alone program or specified training class; instead, CAF is a cultural shift in how fitness is viewed in a more comprehensive manner.”¹⁰ This statement highlights the fact that the CAF is an umbrella initiative that brings other existing programs and activities together to align the disjointed entities towards increasing the resiliency of USAF personnel. Figure 1¹¹ below outlines the different components of the CAF’s four pillars.

The genesis of the CAF initiative came as a result of increased negative behavior from Air Force personnel due to what was perceived as increased stressors from high deployment

rates, instability from permanent change of station or base moves, service reduction in forces, competition for promotion, and sustained exposure to combat operations overseas.¹² Improving one pillar of the CAF was not enough to overcome the above challenges; so all four: mental, physical, social, and spiritual were synergized under the CAF initiative. With military service



FIGURE 1: FOUR COMPREHENSIVE AIRMAN FITNESS PILLARS

being different than a traditional nine-to-five job, changing the resiliency of USAF personnel requires an overall life style change, which is the CAF's intent to affect the culture of the Air Force as it relates to fitness through a holistic approach.¹³

While not a program itself, as previously stated the CAF utilizes "existing programs and activities" to implement fitness education, training, and monitoring mechanisms. Holistic education and training is covered with foundational training, base/unit level training, developmental education, Master Resiliency Training (MRT), Master Resilience Facilitators (MRF) Course, and Resiliency Training Assistant (RTA) training. The first option of Foundational training concentrates on the basic concepts that form the core of the CAF

philosophy and address Total Force requirements for building a baseline understanding of resiliency and the CAF’s 4 pillars of health. This is forecasted for officer and enlisted accession training.

Base/unit level training looks at stressors and challenges to an Airman’s job-related performance and day-to-day operations. There are three training programs that help implement this that includes Individual Readiness Skills Training (IRST), First Term Airmen Center (FTAC) Resilience Training (FTACRT), and Wingman Day. IRST is a requirement for every Active Duty Airman, and involves completing, at a minimum, four hours of training every year. The ISRT utilizes abridged versions of the MRT syllabus and can offer training on ten different resiliency skillsets. Commanders can adjust these available skillsets based on environmental factors and the current resiliency skills required by unit members. FTACRT is administered in the FTAC curriculum to first-term airman at their initial operational assignment. It is eight hours of training and expands on the foundational training provided in basic training.¹⁴ The final base/unit level training venue is Wingman Day. This is a semi-annual 1-day requirement for Regular Air Force units, and “activities will emphasize informational awareness, accountability, team-building, and communication skills for selected topics.”¹⁵

The next avenue for CAF education and training is developmental education, which has CAF constructs and principles injected into officer and enlisted professional military education courses. These curriculum inputs provide deliberate stair step approaches that bring a progression of relevant CAF instruction to support the accession of leaders through the military ranks as their supervisory role and scope increase.¹⁶ Additionally, “CAF information will also be included in Commander courses, Executive Group development, and senior Spouse orientations.”¹⁷

MRT courses are the backbone of the CAF's education and training program as they provide the lead instructors and curriculum implementers for the CAF's four pillars to include physical fitness. This course goes beyond training but also assesses retention and teaching ability through formal evaluation that results in certification for its course graduates. To supplement MRT courses, MRF courses are offered as a two-day instructional that builds on the individual's CAF knowledge and enables them upon completion to support MRT courses as "small group facilitators and evaluators."¹⁸

The final education and training opportunity for CAF constructs and principals is the training of RTAs. RTAs are Airmen who received training from an MRT expert, which is comprised of a three-day course that provides line-level resiliency knowledge to the unit and its members.¹⁹ These individuals help MRT's implement training and assist in instruction.

Examining the CAF's holistic educational and training venues, it becomes apparent that there is potential for shortfalls in sustained and applicable physical fitness instruction. With MRT, MRF, and RTA being an additional duty, it is feasible for a mid-level officer or enlisted member who has not, or will not attend, any developmental education that they would only receive 18 hours of annual CAF education and training. This is comprised of the annual requirements for four hours of ISRT and two, six-hour days of Wingman training. To be fair, if you divide those 18 hours by four to equally divide the instruction between the four CAF pillars, you could have 4.5 annual hours of physical fitness education and training administered by personnel who have taken the training, gained the expertise and certification, and instructional responsibility as a secondary duty.

Perhaps there is a vernacular difference in the CAF's utilization of the term "physical fitness" and its role in the military. In AFI 90-506, Physical Fitness is defined by the CAF as,

“The ability to adopt and sustain healthy behaviors needed to enhance health and well being,”²⁰ and as previously outlined in Figure 1 is broken down into the four tenets of endurance, recovery, nutrition, and strength. According to the Chairman of the Joint Chiefs of Staff Instruction 3405.01, the importance and role of physical fitness in the military is defined as “A set of characteristics that people have or can achieve relating to their ability to perform physical activity. Our Service members must demonstrate the ability to physically accomplish all aspects of the mission while remaining healthy and meet the criteria for deployment, retention, and continued military service.”²¹ An interesting item in the above quotation is the emphasis on mission readiness and operational availability. This is missing from the CAF’s verbiage, and also seems lacking in the physical fitness education and training opportunities. It raises the question of how are Airmen showing they can meet their mission requirements and tasks specific to their job?

The primary physical fitness mechanism within the CAF is the USAF’s fitness program is outlined in AFI 36-2905. This AFI distinguishes the USAF’s Fitness Assessment (FA) as the main metric for determining readiness. The commander’s intent section highlights the benefits of participation in a physical conditioning program and maintaining an active lifestyle. Specifically, it states,

Commanders and supervisors must incorporate fitness into the Air Force culture establishing an environment for members to maintain physical fitness and health to meet expeditionary mission requirements. The FA provides commanders with a tool to assist in the determination of overall fitness of their military personnel. Commander driven physical fitness training is the backbone of the Air Force Fitness Program, and an integral part of mission requirements.²²

Examining the above intent, the two pillars of the USAF’s fitness program and readiness is the individual Commander’s emphasis on physical fitness, and passing FA scores. Unfortunately, limited physical fitness education and knowledge for commanders and the promotion emphasis

placed on FA scores make passing the FA the predominate focus of the USAF's physical fitness program.²³ The specific mission requirement for each Air Force Specialty Code or career field is not taken into account, just the algorithm of combining a mile and a half run time, max push ups, max sit ups, and waist circumference together to determine the overall health level of each airman. There is value in these metrics, but focusing a physical training plan solely upon them is not a true readiness mechanism. Support for this opinion is seen in the findings from a combined military and civilian conference in 2009 to analyze and determine assessments for the Total Fitness concept. Attendees determined the military needed to, "Develop a tool that measures Total Fitness in a way that is useful to all levels of command – not just for O-6 and above or the medical community. Provide a tool to help an E-6 understand and make informed decisions about the readiness and fitness of his platoon."²⁴ By having a physical fitness program geared towards guaranteeing personnel pass a service-wide test, mission readiness is not truly ensured. What is prioritized is a baseline fitness level for the service and a mechanism to highlight deficiencies through FA scoring.

With the progressive increase in joint sourcing assignments or what was formerly known as In-Lieu-Of positions, a more robust FA and physical fitness program could better position certain career fields that historically fill the these requirements. These positions are ones usually filled by the US Army that cannot be met based on manning constraints, and have to be outsourced to other services within the Department of Defense. A study in 2008 found that of the 25,000 airmen deployed in Southwest Asia, roughly 25% of them were joint sourcing assignments. The predominance of these positions was filled with Security Forces Personnel that required either a five- or seven-level airman.²⁵ Career fields like Security Forces are ones that may be facing mission readiness challenges based on emerging operational requirements where a

more robust or resourced physical fitness program could enable them to maintain a better state of readiness for manning joint sourcing assignments.

There is a glass ceiling to the USAF's physical fitness program's construct based on limited resourcing and associated expertise. All service members have access to physical fitness program options on the Air Force Portal under the Fitness and Health section. An Operational Fitness Program is offered which is divided into three levels. As stated in the on-line program,

Level One is broken out into three bi-weekly routines that progressively become more difficult and build on one's endurance, strength, and power. It may be utilized by both individuals or as a class.

Level Two is more of a general fitness program and offers suggested alternative exercises and incorporates both bodyweight and dumbbell exercises.

Level Three is offered as an alternative to commercial off-the-shelf Extreme Conditioning Programs and is meant to be more challenging while still focusing on proper form and creativity by incorporating daily workouts²⁶.

The three levels provide a stair-step approach based on expertise and requirements with Level One being the most basic fitness, Level Two progressing to general fitness, and Level Three giving more advanced options that are in line with the popular Crossfit and High Intensity Training programs. Additionally, the on-line program provides an exercise library option that allows the user to tailor their program based on personal desires.²⁷ While this provides a feasible solution for exercising, it may be deficient in improving operational readiness and holistic physical fitness based on limited access to expertise specific to the individual and long-term applicability.

The maintenance of human beings is different than aircraft in that they do not have linear shelf lives. The principles behind a static maintenance program for a B-52 or F-16 are inapplicable to maintaining a human weapon system. Service members need a cyclical training cycle that is timed accordingly for desired performance windows. Built

into this is rest and recovery to prevent strength or endurance plateaus and prevent injury.²⁸ With the primary decision maker for executing the USAF's fitness program being the individual airman, the expertise is not there. As an article on Human Performance by Colonel Francis O'Connor notes, "To a great extent, important information about Human Performance Optimization is also unknown to the average war fighter, most of their information is derived from commercial venues trying to promote select products."²⁹ The USAF provides a static fitness program that is only adaptable to the individual based on their individual physical fitness knowledge and expertise. An expertise level that has been questioned by medical researchers due to service members lack of formal education and reliance on commercial fitness promotions and advertising.

Above the individual service member the expertise levels still rely on organic resourcing. The emphasis of implementing a physical fitness program is left up to the discretion of the unit commander. AFI 36-2905 states the responsibilities of the unit commander are, "Implements and maintains a unit/squadron PT program in accordance with guidance in this AFI. While not mandatory, Unit Commanders are encouraged to provide written guidance to Airmen describing fitness expectations."³⁰ In the AFI there are no minimum requirements for physical fitness other than an encouraged timeline of up to 90 minutes of training performed three to five times each week.³¹ The service members supporting the commander's implementation of a physical training program as outlined in AFI 36-2905 are the Unit Fitness Program Manager (UPFM), Physical Training Leader-Basic (PTL-B), and the Physical Training Leader-Advanced (PTL-A). As outlined earlier in the paper, education and training for the four domains of the CAF are provided through on-line forums, limited annual training requirements, and episodic

sessions based on service training or professional military education. The training and investment into these three positions is limited to annual and refresher training on administering FAs and Basic Life Support. The PTL-A certification involves an additional on-line training course.³² This means service members with minimal training who have this responsibility as an additional duty provide the majority of the physical fitness expertise for most training programs within the USAF.

PRESERVATION OF THE FORCE AND FAMILY AND HUMAN PERFORMANCE PROGRAMS

Based on sustained combat deployments since 2001 from the Global War on Terror and Overseas Contingency Operations, USSOCOM utilized the POTFF initiative as one of its main mechanisms to mitigate the stresses faced by its personnel, and improve the readiness and resiliency of its forces. Per the POTFF on-line brochure, the mission statement of the POTFF-Task Force (TF) is, “To build and implement a holistic approach to address the pressure on our force. The POTFF-TF will identify and implement innovative, valuable solutions across the USSOCOM Enterprise aimed at improving the short and long-term well-being of our Special Operations Forces (SOF) warriors and their families.”³³ The components of POTFF are outlined below in Figure 2³⁴ with the four primary domains being Human, Psychological, Social, and Spiritual Performance.

The blending of the four domains shows the all-inclusive approach similar to the CAF that the POTFF takes for improving the resiliency and readiness of not only the service member, but their family as well. Any one of the four domains cannot function effectively alone, but must be used in conjunction with the other three. The items listed below the Venn diagram are the mechanisms utilized to address and support the different domains.

A perfect example of this is seen in the component-specific Human Performance programs found throughout the POTFF-Task Force. The United States Army's Special Operations Command's Human Performance Program called Tactical Human Optimization, Rapid Rehabilitation, and Reconditioning (THOR3) and Naval Special Operations Command's



FIGURE 2: INTEGRATED SUPPORT TO SOF

Tactical Athlete Program (TAP) are similar POTFF Human Performance programs (domain) focused on strength and conditioning (mechanism) while concurrently providing advanced rehabilitation (mechanism) to improve performance and reduce musculoskeletal injuries for Special Operations personnel. Even though the programs are similar, each one has slightly different implementation methods that would provide best practices and lessons learned for CAF integration.

Resourcing and funding of the POTTF-Task Force is provided through USSOCOM with an emphasis on providing relevant expertise, leveraging existing mechanisms, and eliminating redundancies. The near-term solutions to meet these priorities are through the Booz Allen Hamilton (BAH) Enterprise Contract. As described by the POTFF-Task Force Director,

The BAH entails hiring over 400 civilian experts to positions throughout the SOF enterprise. We are currently hiring strength and conditioning coaches, athletic trainers, physical therapists, dieticians, psychologists, licensed clinical social workers, nurse case managers, and family readiness coordinators...As we manage POTFF requirements, we first look to leverage current DOD capabilities before hiring contractors. The BAH contract was carefully crafted to fully support reducing the scope whenever possible. This provides us extreme flexibility to simultaneously meet SOF requirements while ensuring no duplication of effort.³⁵

The above funding and manning enable successful implementation of the POTFF-TF's Performance Programs. While this still has to be divided between the four domains, the interrelatedness of the domains allows for a unity of effort between the personnel and resources that fuel the POTFF-Task Force's overall successful endeavor to execute its mission. Examples of these successes specific to Human Performance and physical fitness can be ascertained from examinations of two programs, NAVSOC or Naval Special Warfare's (NSW) Tactical Athlete Program (TAP), and USASOC's Tactical Human Optimization Rapid Rehabilitation THOR3 Program.

NAVAL SPECIAL WARFARE TACTICAL ATHLETE PROGRAM

The following study of the Naval Special Warfare (NSW) Tactical Athlete Program (TAP) was derived from a review of existing literature and documentation on the program. The NSW community has had a long-standing interest in their human performance program since the early 2000's. There was an initial progressive investment made in the late 1990's that involved the acquisition of "orthopedic surgeons, physician's assistants, and physical therapy technicians, and later certified athletic trainers into the NSW logistics and support Units."³⁶ Lessons learned from this resourcing increase were that they still needed a bridging capability that could bring these capabilities and specialties together through an overarching program.

NSW utilized a model based on sports performance programs and specifically the National Football League for prescreening. NSW's TAP focused on screening to highlight preexisting performance data points that would enable personnel to concentrate their training on preventative measures and exercises. The theory being, the program could prevent injuries from occurring specific to each individual. From 2003 thru present day, these screening and testing mechanisms have increased and improved with the inclusion of clinical lab testing through the University of Pittsburgh and Old Dominion University.³⁷

One of the main pillars of TAP is its bridge program for not just getting operators early rehabilitative treatment for injuries, but syncing their care plan with human performance trainers. This allows the individual to not just maintain but also potentially gain strength and performance increases as they work to overcome an injury. According to Mark Rogow who is the Sports Medicine program manager for Naval Special Warfare Group One, the effect of this is "an expeditious return to duty and peak fitness for NSW war fighters that directly enhances command readiness and mission capability."³⁸ The bridge program provides preventative

solutions in addition to rehabilitation based on the screening and assessment stressed in the TAP. If a body part or cross-musculoskeletal deficiency or abnormality is highlighted, the bridge program can devise a care plan to help improve mobility, strength, or whatever the deficiency is for the individual. By combining the athletic trainer with the physical trainer support, the program ensures the continued physical development and improvement of the operator while still focusing efforts to rectify or mitigate an injury or its precursors.

An example highlighting implications of not using this model would be the common injury of shin splints or micro stress fractures in the lower extremities. Many rehabilitative specialists utilize the RICE acronym of Rest, Ice, Compression, and Elevation for treatment. While effective, this can leave the individual limited for aerobic activity based on the resting of the injured body part. The bridge program could alter the training program to include non-load bearing activities such as hydrotherapy. At its inception, hydrotherapy was a cutting-edge technology for rehabilitation that NSW implemented in its TAP. It involves a pool with an underwater treadmill, which allows patients to begin utilization and rehabilitation of a musculoskeletal injury while vastly reducing the weight bearing stressors levied on it by gravity during normal movement outside of the water³⁹. This rehabilitative tool could be utilized to maintain the physical fitness of the operator specific to their training program, while concurrently help physical therapy personnel fix or heal the individual's stress fractures.

The hydrotherapy tools mentioned above highlights a second, best practice of the TAP, which is leveraging cutting-edge technology and expertise to support the education, training, and rehabilitation of its service member. As discussed earlier, NSW was forward-looking in acquiring and providing human performance personnel dating all the way back to the late 1990's. This drive to improve and support their personnel with subject matter expertise seems to have

culturally continued into the present-day implementation of the TAP. While new equipment and technology is important, the sustained investment into their staff's knowledge base and expertise is really the key takeaway. As Rogow states:

As proud and thankful as we are to have these valuable modalities and pieces of equipment, they cannot overshadow the quality of our personnel and the amount of time our personnel spend enhancing their craft. We devoted a lot of time and resources to advance our evaluation skills, manual therapy techniques, knowledge and understanding of injury, collection and producing evidence-based research geared to enhancing both rehabilitation, as well as pre-habilitation. We and our command, value people more than hardware; so by our command supporting our education and training, as well as many of our program initiatives, it has been this support that has been critical to our continued success.⁴⁰

Relevant investment in a human performance staff that relentlessly seeks appropriate training and rehabilitation equipment and knowledge for assigned personnel is the resourcing required to sustain an effective human performance program like the TAP. The opposite of this is seen in the CAF's fitness program with a train-the-trainer model and the leveraging of local fitness support centers. The TAP ensures industry expertise with a cyclical knowledge and equipment procurement process that vectors units, commanders, and individual operators towards the best exercise, nutritional, or rehabilitative solution.

An additional strength of the TAP is the heavy investments NSW made into their headquarters elements. In comparison to USASOC's THOR3 program, TAP added a sports medicine director and human performance director, which ensured TAP had the bandwidth and technical expertise for oversight of multiple teams at the Group or O-6 level. This facilitates the program's effective expansion based on personnel or organizational increases, and provided a robust means of communication with both the medical and training staffs within NSW.

An added benefit from the headquarters elements increased manning is a brokered Memorandum of Agreement (MOA) with local military hospitals to provide orthopedic surgeon consultants. TAP leveraged existing expertise from local support to increase the level of care it could provide its service members. This was standardized across NSW through MOAs and numerous studies, and has been deemed a unique and successful component of the TAP.⁴¹

A significant finding from the TAP is that actual numbers of injuries have not necessarily been reduced, but the injury severity and time required to rehabilitate have gone down substantially⁴². While unable to directly tie this to their bridging program, these data points inherently support the validity of the TAP's successful implementation. The reduction costs from prevented manning losses and operational readiness sustainment as a result of the TAP helped justify the fiscal requirements to establish and maintain the program.

UNITED STATES ARMY SPECIAL OPERATIONS COMMAND'S TACTICAL HUMAN OPTIMIZATION, RAPID REHABILITATION, AND RECONDITIONING PROGRAM

The second human performance program studied was United States Army Special Operations Command's (USASOC) Tactical Human Optimization, Rapid, Rehabilitation, and Reconditioning program (THOR3). Similar to the TAP, a review of existing studies and literature was conducted to determine best practices and lessons learned for the program. THOR3 was implemented by USASOC in response to a growing concern on the rate of injury, resiliency, and retention of its personnel due to a high operational tempo and physically demanding tasks and requirements. Receiving its funding through USSOCOM and falling under the POTFF Task Force, THOR3 is the biggest and most robust Human Performance Program in the Department of Defense.⁴³ The justification for this is USASOC contains the largest

component of Special Operations forces in USSOCOM having 32,900 active duty and 1,200 Reserves.⁴⁴ While not the first HPP created, it has become the best-resourced and manned program, which seems to result in higher-levels of analysis when compared to the other HPPs.

THOR3 utilizes a construct similar to that of college or professional sports teams, with one of the program pillars being a building block approach that emphasizes foundational movement prior to advancing into more complex techniques or exercises. There is danger in many of today's commercial workout routines where participants are exposed to exercises without a solid education and understanding of the mechanics involved.⁴⁵ THOR3 invests in the individual just as a collegiate sports team would in their student athlete to ensure they have a solid foundation to continue their exercise program into their athletic season or events. Training soldiers preps them for their "athletic season," which could be an upcoming deployment or mission execution. With the continual overseas requirements facing USASOC's soldiers, educating and establishing a strong foundational movement base provides a long-term investment by reducing injuries as the skills required and complexity of the exercises performed increases. This ensures sustained mission requirements can be manned and successfully executed.

As mentioned, the reverse application of this is exposing individuals to advanced lifts and exercises for short-term gains and potentially commercial revenue. Benjamin Knipscher highlights this in a research paper on the best implementation of THOR3, "They willingly sacrifice low or zero injury rates for higher client volume and profit."⁴⁶ Knipscher is referencing the dangers seen in other physical fitness programs of not establishing a strong base of foundational movements. This emphasis is a best practice of the THOR3, which could effectively be implemented in any physical fitness program associated with the CAF.

THOR3 ensures a strong understanding of foundational movement with the knowledge and expertise of its staff in training soldiers. This is a similar practice to the TAP of heavily investing in support personnel both on the medical and non-medical side. It is one of the major differences from the execution of physical fitness programs associated with the CAF. The CAF relies heavily on the limited expertise of service members supporting the program who have the role as a secondary duty. The actual knowledge and expertise of these personnel are limited when compared to a certified athletic trainer, physical therapist, or dietician as utilized in THOR3.

THOR3 has had extensive research conducted to analyze its organizational requirements. The three expertise areas prioritized for the program are “optimizing human performance, rehabilitation, and reconditioning.”⁴⁷ These attempt to meet the USSOCOM mission statement for HPP. Within the program, there are four positions required to provide the prioritized expertise, a human performance coordinator focused on strength and conditioning, physical therapists, performance dieticians, and cognitive enhancement specialists.⁴⁸ Figure 3 and Figure 4⁴⁹ outlines these required areas of expertise and associated positions.

Required Functional Areas of Expertise	
Area of Expertise	Goal
Optimizing human performance	Producing SOF soldiers who are as fit as possible, preventing injuries, and laying the groundwork for rapid recovery should a soldier become injured; includes both physical and mental fitness
Rehabilitation	Rehabilitating injured soldiers to the point that they are physically able to enter a reconditioning program that will return them to full capability
Reconditioning	Reconditioning SOF soldiers so they can rejoin their units at full capability

FIGURE 3: TACTICAL HUMAN OPTIMIZATION, RAPID REHABILITATION, AND RECONDITIONING REQUIRED AREAS OF EXPERTISE

THOR³ Positions, Associated Government Service Series, and Descriptions

Position	Office of Personnel Management Job Series	Description
Human performance program coordinator (includes strength and conditioning)	General Health Science Series, 0601	Plans, develops, and implements formal strength, conditioning, and performance programs to decrease risk of injury and improve functional capacity of SOF soldiers
Physical therapist	Therapist Series, 0633	Provides full range of professional physical therapy services, including screening and diagnostics
Performance dietitian	Dietitian and Nutritionist Series, 0630	Implements and delivers a comprehensive nutrition program covering all aspects of optimal health, performance, and rehabilitation
Cognitive enhancement specialist	Psychologist Series, 0180 (likely)	Facilitates the functioning of a "mind-body" weapon system, enabling mission execution as SOF soldiers negotiate increasingly complex, ambiguous operating environments (contractor-only structure and fill as currently planned) ^a

FIGURE 4 TACTICAL HUMAN OPTIMIZATION, RAPID REHABILITATION, AND RECONDITIONING REQUIRED POSITIONS

The four positions in Figure 4 have been validated and utilized across USASOC as the organizational standard. Leveraging this template as a task organization for a CAF physical fitness programs would be a beneficial implementation from the THOR3 model.

One additional lesson learned from THOR3's organizational analysis is the balance of civilian and contract positions in manning HPP positions to provide resourcing flexibility. Utilizing the four positions listed, Program Coordinators and the headquarters office voiced a preference for civilian personnel versus contractors based on increased costs, longevity, loyalty to the service vice the contracting company, and prolonged exposure and understanding of special operations requirements.⁵⁰ There are limitations however, to utilizing civilian personnel based on the difficulty in removing individuals not performing once they attain permanent civilian positions or the flexibility to adjust manning levels with fluctuations in customer numbers based on deployments or short-term manning changes. At the unit level, there were preferences for flexibility to address these concerns. The overall conclusion on the balance of civilian permanency versus contractor flexibility as highlighted in a RAND study published in 2013 is that within each of the four positions of human performance program coordinator,

physical therapist, performance dietician, and cognitive enhancement specialist there should be at a minimum one civilian to provide continuity and establish long-term relationships. This addresses the headquarters preference for civilian personnel, but still enables the flexibility that contractors provide for dealing with a dynamic operating and fiscal environment.

This final lesson learned is very applicable for implementation into any physical fitness program associated with the CAF. The main reasons for this are the restricted resources facing any resiliency organization outside the POTTF, and the increase of joint sourcing assignments for USAF personnel to support overseas contingency operations. Without funding constraints, resident expertise and long-term resourcing provided by civilian manning are validated for solidifying a unit's human performance or physical fitness program. This briefs well, but does not execute cleanly, based on the current federal budget. The fiscal constraints levied on the USAF means requirements outside the maintenance and procurement of million-dollar weapon systems must deliver quantifiable return on investment for sustained funding. This requires a program to maintain flexibility and fiscally adjust to the operational environment and its requirements. Contractors provide this capability, and should be part of any manning solution that the CAF would utilize to develop a physical fitness program with civilians. The balance of civilians and contractors provides the permanent expertise and relationships required to execute a HPP while still remaining fiscally flexible to adjust to the real-time requirements.

USAF CRITICALLY MANNED CAREER FIELDS

A potential course of action would be resourcing mission critical career fields within the USAF for Human Performance Programs (HPP) similar to the POTFF's HPP in USSOCOM. Leveling resources at mission critical career fields to improve manning is a common practice within the Air Force with respect to Selective Reenlistment Bonuses (SRB). The 2015 SRB list

has 23 Air Force Specialty Codes (AFSC) listed on it with the prioritized requirement to maintain five- and seven-level personnel. As Colonel Arch Bruns, the Director of AFPC Personnel Services asserts, these are “Critical and emerging career fields with high operations demands and low manning that still require attention, such as battlefield Airmen, cyberspace specialties, and specific maintenance career fields.”⁵¹ Below is a complete listing of the 2015 SRB list, with the 13 new additions for the year asterisked.⁵²

1A8X1 Airborne Cryptologic Language Analyst
1A8X2 Airborne Intelligence, Surveillance and Reconnaissance Operator
1B4X1 Cyberspace Defense Operations
1C2X1 Combat Control
1C4X1 Tactical Air Control Party
* 1N2X1A Signals Intel Analyst - Electronic
1N4X1A Fusion Analyst, Digital Network Analyst
1T0X1 Survival, Evasion, Resistance and Escape
1T2X1 Pararescue
1W0X2 Special Operations Weather
* 2A3X3 Tactical Aircraft Maintenance
* 2A3X4 Fighter Aircraft Integrated Avionics
* 2A375 Advanced Fighter Aircraft Integrated Avionics
* 2A3X5A Advanced Fighter Aircraft Integrated Avionics (F-22)
* 2A375B Advanced Fighter Aircraft Integrated Avionics (F-35)
* 2A3X7 Tactical Aircraft Maintenance (5th Generation)
* 2A5X2D Helicopter/Tilt Rotor Aircraft Maintenance (CV-22)
* 2A574 Refuel/Bomber Aircraft Maintenance Craftsman
* 2A5X4D Refuel/Bomber Aircraft Maintenance Craftsman (B-52)
* 2A5X4F Refuel/Bomber Aircraft Maintenance Craftsman (B-2)
* 2M0X3 Missile and Space Facilities
3E8X1 Explosive Ordnance Disposal
* 4C0X1 Mental Health Service

Many of the above AFSCs are found in AFSOC and already have access to the POTFF’s HPP, but there are others that have a majority of their personnel outside AFSOC such as Explosive Ordnance Disposal and Survival Evasion Resistance and Escape. Providing resourcing to ensure the health and maintenance of these AFSCs to help solidify manning while increasing operational readiness only makes sense. Colonel Bruns supports this type of logic by noting,

“SRBs are judiciously targeted to provide the most return-on-investment in both dollars and capability, and allows the USAF to retain Airmen who are critical to current and emerging mission requirements.”⁵³ With the USAF willing to push funding towards retention of critically manned career fields, an additional solution would be appropriately resourcing a HPP contract for them. Research has shown through implementation in USSOCOM that a HPP can provide a more mission-ready force that recovers from injuries quicker and many times mitigates the severity of an injury.

A perfect example of this scenario is seen with the Air Combat Command’s and Air Force Reserve Component’s funding a POTFF-like HPP contract for their Guardian Angel (GA) Units. . GA Units are comprised of Combat Rescue Officers (CRO) and Pararescuemen (PJ) and have personnel spanning multiple USAF Major Commands (MAJCOM) in both Rescue and Special Tactics Squadrons. GA personnel were initially exposed to HPP, as AFSOC Special Tactics members. Realizing the benefits and relevancy to mission readiness, GA leadership outside of AFSOC pushed for similar funding and implementation from their MAJCOM leadership. Currently, these programs have received resourcing from their respective MAJCOMs and are being implemented outside of AFSOC.

CONCLUSION

When compared to the POTFF-Task Force’s Human Performance Programs, any physical fitness program aligned under the USAF’s CAF initiative struggles to effectively improve readiness and mitigate the risk of injury while filling mission requirements. This is based on resourcing and funding discrepancies that leave Airmen with a fitness program designed to ensure and prioritize successful accomplishment of the service-wide fitness assessment. The program’s subject-matter expertise is limited to internal service-member

training that does not sync the exercise programs with rehabilitative personnel and mechanisms in a way that aggressively mitigates lost manning days and the prevention of chronic injuries.

With the sustained deployment requirements for Overseas Contingency Operations and the fiscally constrained state of the USAF, investment into the readiness and resiliency of critically manned career fields through robust physical fitness and rehabilitative programs should be implemented to improve the health of the force and ensure its operational effectiveness.

RECOMMENDATIONS

The USAF needs to improve the CAF initiative from an umbrella program that leverages existing disjointed resources, to include a CAF Human Performance Program (HPP). This would be similar to the POTTF-Task Force's HPPs with an increased USAF funding line that can synergize manning and resources towards effectively implementing a CAF Human Performance or physical fitness program within targeted career fields. The bottom-line requirement for an effective physical fitness program to improve readiness, resiliency, and manning is adequate staffing and resourcing.

This Program would have the capability to analyze and assess critically manned career fields outside of AFSOC that warrant Human Performance Program support based on a high operational tempo, physically demanding mission requirements, and a limited manning pool due to training and upgrade requirements. Examples of these career fields are Tactical Air Control Party, Explosive Ordnance Disposal, and Survival, Evasion, Resistance, and Escape. The list could expand beyond the realm of battlefield airmen to include maintenance career fields if deemed cost effective by the CAF-Task Force.

Within the CAF HPP, training should be mission oriented with a focus on the operational requirements of each career field or associated organization. This is the primary lesson learned from both the TAP and THOR3 programs that service members must be trained in a similar method to the sports team model. These tactical athletes must have exercises and tasks in their training program that prepare them for their own “athletic season.” The priority placed on service-wide fitness assessments would have to adjust for adaptation of career field specific requirements and assessments. This would not just include aspects of the current fitness assessment of a one and a half mile run and calisthenics, but expand or go beyond these to what individual airman must perform as part of their mission essential tasks. Just as the POTFF’s HPPs assessed and prioritized the operational requirements and tasks of Special Operations personnel as the cornerstones of their training programs, so would the CAF’s Human Performance Program with the USAF’s organizations and their associated career fields. This follows the athletic sports team model that has been deemed so effective by the existing POTFF HPPs.

Building the physical fitness requirements must come from a knowledgeable staff and support mechanism, which would be one of the biggest improvements to a CAF associated physical fitness program. A commander’s buy-in is critical to the successful execution of a physical fitness program, but the knowledge of each commander and their unit members is dependent on the individual organization and cannot be guaranteed. As the TAP and THOR3 have proven, the backbone of a Human Performance Program is the expertise of its medical and non-medical staff and their ability to provide tactical athletes cutting-edge instruction and technology to ensure the safe implementation of the training program they provide and enable preventative and post-injury rehabilitative support. A staffing template that could be utilized is

the four positions outlined by the THOR3 of a human performance coordinator focused on strength and conditioning, physical therapists, performance dieticians, and cognitive enhancement specialists.⁵⁴ These positions could be filled with civilian personnel to solidify the core of the program with contractors to support fluctuating customer requirements and ensure proper resourcing allocation.

The CAF HPP's most needed change to improve manning readiness is utilizing the “bridge model” popularized by NSW's TAP. Synchronizing the efforts of athletic trainers with physical therapists and their supporting personnel under one organizational structure removes the slack from the rehabilitative process. This is true from a preventative standpoint as well as post injury. Strength and conditioning training as well as rehabilitation support would synergistically move the service member towards returning to duty quicker, post injury. Assessment procedures conducted by athletic trainers could highlight individual deficiencies that would be corrected by rehabilitation personnel as a preventative mechanism to ensure service members were physically able to perform their mission requirements.

The effects of implementing these changes to the Comprehensive Airman Fitness initiative would benefit career fields both fiscally and operationally where manning and training requirements are a major concern. Even as a relatively nascent program within the USAF, with the operational challenges facing today's force, it is imperative that the USAF leverage the existing lessons learned from successful endeavors like the POTFF's HPPs to improve the CAF's effectiveness and relevancy. Procedural improvements that should be adopted within a CAF HPP are devising an assessment capability and metrics to identify relevant career fields or units for HPP implementation, focusing physical training programs on the mission specific requirements of the individual similar to the athletic sports model, increasing access to higher

level subject matter expertise from medical and non-medical support personnel and staff positions, and streamlining the bridge between preventative and rehabilitative mechanisms within the program.



ENDNOTES

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Well done! There are a few mistakes that got by the editing process (see above), but overall you did a fine job of pulling your paper together. It was interesting to see it mature over these past couple of months, as you worked your way to your conclusion and recommendations.

A couple of things: 1) Sentences require verbs. (See above.) and 2) Try not to have questions in your paper. You are answering a research question and by posing your own questions within your answer can confuse some readers as to what you are actually answering.

Thank you for your contributions to the class. Best of luck in your future endeavors.

Grade: A

